

La Nina vs. Madden-Julian Oscillation
State Climatologist news
Leap Day!

This year has been an atypical La Nina for California. More frequently than not, La Nina brings Southern California a very dry winter, and Northern California a good first half, but drier second half of winter. That has not happened. Let's hope it keeps not happening.

First off, La Nina is the cooling of equatorial sea surface temperatures (SST's) over the Pacific Ocean. It is the counterpart to the more 'famous', or perhaps 'infamous' El Nino. La Nina conditions have been in place since last year, and are expected to continue through spring of 2008, possibly longer. This La Nina is the strongest in 8 years, and in the top 1/3rd of La Ninas. Forecasts are for it to continue at least at moderate strength through April, May and June. Indications are that it has peaked and that the below average SST's are waning in the far eastern Pacific.

For the most recent La Nina forecasts, conditions and Q&A's, go to:
<http://www.cpc.ncep.noaa.gov/products/precip/CWlink/MJO/enso.shtml>

The impacts to CA listed above, as well as usual predictions of very dry weather for the southwestern U.S. as a whole have not entirely come to pass. In fact a wet and cold La Nina has never happened before in Tucson, AZ, but is now. And southern California seasonal precipitation values are running in the range of 100-160 percent of normal! So it's been clear since the storm door opened in early January that something else must be in play. Or clear at least, that this La Nina is unique.

The culprit, or assistant(?), may be what is known as the Madden-Julian Oscillation (MJO). Briefly, MJO refers to periods of enhanced convection (storm activity) over the tropics. These fluctuations may occur every 30-60 days. For our part of the world, the MJO can promote an extension of the jet stream all the way across the Pacific to the west coast of the United States, leading to rain. This pattern can occur even during strong La Nina conditions, which primarily set up a blocking ridge over the west coast. Most La Nina high pressure domes are difficult to penetrate, moreso in the second half of winter. That is why La Nina's typically bring reduced rainfall in January, February and March. But this year, we've had a couple of rounds of storms that may have been set up by this MJO. The positive numbers in snowpack for January and February are quite likely linked to MJO variability.

There are no experts here at the Department of Water Resources on the MJO, but there are some very smart folks at NOAA who research it extensively. For additional details, please go to:

<http://www.cpc.ncep.noaa.gov/products/precip/CWlink/MJO/mjo.shtml>

The position of State Climatologist is now 100% official! Our Dr. Michael Anderson of the Department of Water Resources was instrumental in getting the State Climatologist post re-instituted in California.

While there has been a acting climatology presence since the 1980's, it wasn't until July of 2007 that the California State Climate Office was officially recognized by the American Association of State Climatologists (AASC). The National Climatic Data Center (NCDC) has recognized Dr. Anderson's role for over 2 years.

Dr. Anderson received his Ph.D. in Civil and Environmental Engineering from the University of California, Davis in December, 1998. His M.S. in Civil and Environmental Engineering was from the University of California, Davis in December, 1993. He received a B.S. in Civil Engineering from Colorado State University in Fort Collins, Colorado, in May 1991.

Just yesterday, Dr. Anderson's promotion was finalized within the Department of Water Resources. He will now be able to devote 100% of his time to this vital position. Many other state's climatologist posts are within the academic environment, not government. His office will collect, analyze and evaluate climate data for California.

The link to the CA State Climatologist's website is:

<http://www.climate.water.ca.gov/>

There you can find data, information, and summaries of interest.

Today is Leap Day! February 29th doesn't come around every year, as most of us know. It is designed as a calendar adjustment to correct for the fact that the actual time it takes to get around the sun is not an even number. If the path took exactly 365 days, or some other easily divisible number, we wouldn't have leap days. The actual length of a year is 365.2422 days. If a year is divisible by 4, it's a leap year, unless it is also divisible by 100, then it is not a leap year. But it gets even weirder. If a year is divisible by 400, it IS a leap year.

The modern Gregorian Calendar just can't mimic the actual astronomy taking place. 2008 is a leap year, so enjoy your extra day! If you feel like you're getting back 'in sync,' that may be the reason.

Back next week.

(EL)

Weather_and_Climate_News

Modify your subscription settings at

http://listhost2.water.ca.gov/mailman/listinfo/weather_and_climate_news